# Homework solutions 2

# Homework

- What is the result of:

```
1 + 2 * 3
```

- What will the value of B be after executing these three lines of code:

```
A = [2,3,4]
B = (A,A)
A[2]=5
```

- Rewrite this comparison in a simpler form:

```
a < 4 or a > 4
```

- Which of these code continuations are valid?

```
A = [1,2,3
    ]
```

```
A = 1,2,
    3
```

```
A = (1,2,
    3)
```

```
A = (
    1
    +
    1
    )
```

# Homework

- What is the result of:

```
1 + 2 * 3
```

same as

```
1 + (2 * 3)
```

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# Homework

- What will the value of B be after executing these three lines of code:

```
A = [2,3,4]
B = (A,A)
A[2]=5
```

B is a tuple that contains to pointers to A. We changed A so B changes:

```
>>> A
[2, 3, 5]
>>> B
([2, 3, 5], [2, 3, 5])
```

# Homework

- Rewrite this comparison in a simpler form:

```
a < 4 or a > 4
```

This requires a bit of thought. Comparison `a < 4` is True for a = 3, 2, 1, … while comparison `a > 4` is True for a =5,6,7,… Thus one of the two comparisons will be true for any value of except 4.

```
a != 4
```

# Homework

- Which of these code continuations are valid?

Fine

```
A = [1,2,3
    ]
```

Invalid

```
A = 1,2,
    3
```

Fine

```
A = (1,2,
    3)
```

Fine

```
A = (
    1
    +
    1
    )
```

# Homework

- Using a `while` loop, write a short Python script to compute n factorial
  [=n*(n-1)*(n-2)*…2],
  where n is a Python variable containing a positive integer

```
>>> n = 5
>>> prod = n
>>> while n > 1:
...     n -= 1
...     prod *= n
...
>>> prod
120
>>> 5 * 4 * 3 * 2
120
```

# Homework

- Using a `while` loop, write a short Python script to compute n factorial
  [=n*(n-1)*(n-2)*…2],
  where n is a Python variable containing a positive integer

- Do the same thing using a `for` loop with the `range` function

```
>>> n = 5
>>> prod = 1
>>> for i in range(2,n+1):
...     prod *= i
...
>>> prod
120
```